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ENVIRONMENTAL PROTECTION AGENCY  
AGENCY: Environmental Protection Agency.

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September 8, 1989

National Combined Sewer Overflow Control Strategy Document Availability  
ACTION: Notice of availability.

SUMMARY: This notice announces the availability of a document which describes EPA's National Combined Sewer Overflow Control Strategy.

DATE: Copies of this document will be available from EPA Office of Water for a period of 90 calendar days, beginning September XX, 1989.

ADDRESSES: Copies of this document can be obtained by writing to Ms. Angie McLean, Permits Division, EN-336, U.S. EPA Environmental Protection Agency, 401 M Street SW., Washington, DC 20460 or by telephoning her at (202) 475-9543. FOR FURTHER INFORMATION CONTACT: William A. Collins, Jr., telephone: (202) 475-9517.

TEXT: National Combined Sewer Overflow Control Strategy

## Introduction

Combined sewer overflows (CSOs) are flows from a combined sewer in excess of the interceptor or regulator capacity that are discharged into a receiving water without going to a publicly owned treatment works (POTW). CSOs occur prior to reaching the headworks of a treatment facility and are distinguished from bypasses which are "intentional diversions of waste streams from any portion of a treatment facility" (40 CFR 122.41(m)). nl

n 1 Flows to the treatment works (POTW), including dry weather and wet weather flows, are subject to secondary treatment regulations, water quality standards, and the National Municipal Policy. Dry weather discharges from CSOs, which are also subject to this strategy, are illegal and must be expeditiously eliminated. Regions and approved States should use appropriate enforcement actions to eliminate such activities and assure compliance.

Most major municipal areas in the United States are served by a combination of sanitary sewers, separate storm sewers, and combined sanitary and storm sewers. The Agency has estimated that there are between 15,000 and 20,000 CSO discharge points currently in operation. Sanitary sewer systems must adhere to the strict design and operational standards established to protect the integrity of the sanitary sewer system and wastewater treatment facilities. Discharges



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from separate sanitary sewer systems with less than secondary treatment are prohibited. The regulation of discharges from separate storm sewer systems is addressed in section 402(p) of the Clean Water Act (CWA). EPA is proposing regulations implementing section 402(p) which include requirements to develop system-wide municipal storm water management programs to reduce pollutants from municipal separate storm sewers. The following strategy is designed to control effluents from combined systems which are not regulated under the sanitary system standards nor as discharges from separate storm sewer regulations.

This CSO permitting strategy is designed to complement the control programs for sanitary sewers and separate storm sewers. This strategy establishes a uniform, nationally-consistent approach to developing and issuing NPDES permits for CSOs. CSOs have been shown to have severe adverse impacts on water quality, aquatic biota, and human health under certain conditions. Therefore, permits for CSOs are to be developed expeditiously to minimize these potential impacts by establishing technology-based and water quality-based requirements.

The objectives of this strategy are threefold:

- (1) To ensure that if CSO discharges occur, they are only as a result of wet weather,
- (2) To bring all wet weather CSO discharge points into compliance with the technology-based requirements of the CWA and applicable State water quality standards, and
- (3) To minimize water quality, aquatic biota, and human health impacts from wet weather overflows.

#### Statement of Strategy

CSOs are point sources subject to NPDES permit requirements including both technology-based and water quality-based requirements of the CWA. CSOs are not subject to secondary treatment regulations applicable to publicly owned treatment works (*Montgomery Environmental Coalition vs. Costle*, 646 F. 2d 568 (D.C. Cir. 1980)).

Technology-based permit limits should be established for best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT) based on best professional judgement (BPJ) when permitting CSOs. The CWA of 1977 mandates compliance with BPT on or before July 1, 1977. The Water Quality Act Amendments of 1987 (WQA) mandates compliance with BCT/BAT on or before March 31, 1989.

Section 301(b)(1)(C) of the CWA mandates compliance with water quality standards by July 1, 1977. In addition it is likely that at least some CSO discharges will be point source discharges to waters listed under section 304(1) of the CWA and subject to the control requirements of that Section.

All CSO discharges must be brought into compliance with technology-based requirements and State water quality-based requirements. The Agency expects that this can be achieved using a combination of CSO control measures.



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### Applicability of Strategy

This strategy applies to all CSOs. Flows in combined sewers can be classified into two categories: wet weather flow and dry weather flow. Wet weather flow is a combination of sanitary flow, industrial flow, infiltration from groundwater, and stormwater flow, including snow melt. Dry weather flow is the flow in a combined sewer that results from domestic sewage, groundwater infiltration and industrial wastes with no contribution from stormwater runoff or stormwater induced infiltration.

This strategy applies to EPA and approved NPDES States. EPA Headquarters will oversee the implementation of the strategy to ensure actions taken by the Regions and States are consistent with the national strategy and that the Agency as a whole is making progress towards meeting the statutory requirements and achieving the water quality objectives of the CWA.

This strategy does not apply to bypasses. Bypasses are "intentional diversions of waste streams from any portion of a treatment facility." The treatment facility begins at the headworks where equalization of the waste streams takes place. Bypasses are regulated under 40 CFR 122.41(m). Bypasses from any portion of the treatment facility are prohibited unless the criteria in 40 CFR 122.41(m)(4) are satisfied. These criteria are (1) bypasses are unavoidable to prevent loss of life, personal injury, or severe property damage; (2) there are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; and (3) the permittee submitted notices as required under 40 CFR 122.41(m)(3).

### Implementation

Communities are responsible for developing and implementing system-wide combined sewer management plans. State-wide permitting strategies will be developed by the States or Regions to ensure implementation and consistency with this CSO strategy. Permitting strategies should be developed no later than January 15, 1990 and Regions should approve State strategies no later than March 31, 1990. A discussion of different elements that may be addressed in the strategies is provided below.

#### 1. Identification

CSO point sources currently discharging without a permit are unlawful and must be permitted or eliminated. The Regions and States must identify the communities with combined sewer systems and each particular CSO discharge point within these communities. The permitting strategy should place each CSO discharge point into one of three categories: (1) Not permitted; (2) permitted in conjunction with POTW; and (3) permitted separately from POTW. The status of compliance with technology-based and water quality-based permit requirements should be provided for each CSO discharge. An ongoing commitment of evaluating and maintaining CSO location and permit discharge status records should be adopted by every community.

#### 2. Priorities



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The Regions and States are expected to set priorities in permitting and controlling the unpermitted and insufficiently permitted discharges. In addition to the requirements identified above, the permitting strategy should describe the Regional or State completed and planned actions and timing to bring the discharges into compliance. Permitting and control priorities should be established based upon a system-wide evaluation of known or suspected impacts from CSOs using estimates of flows, frequencies, durations, and pollutant loadings to rank POTW collection systems for permitting.

One of the most important considerations for establishing priorities is whether the CSO discharges to marine or estuarine waters. Other factors to be considered in the priority setting effort are the nature of CSO control measures and the use designation of streams and the estimated increases in beneficial uses resulting from these measures, receiving waters listed under section 304(1) of the Water Quality Act of 1987, other water program efforts such as the Great Lakes program and pretreatment program evaluations.

### 3. Permit Issuance

A single, system-wide permit should be issued whenever possible for all discharges, including overflows, from a combined sewer system operated by a single authority. The permit should identify separately, as specifically as possible, the location of each overflow in the system (i.e., longitude, latitude, street address, and a map).

Different parts of a single combined sewer system are in some cases owned and/or operated by more than one authority. Permits issued to such authorities should require joint preparation and implementation of the requirements of this strategy and specifically define the responsibilities and duties of each owner and operator. The POTW is responsible for planning and coordinating a system-wide approach. The individual owners and/or operators are responsible for their own discharges and must cooperate with the POTW. When a CSO is permitted separately from the POTW, the POTW's NPDES permit should cross-reference this for informational purposes.

### 4. Compliance Schedules

Compliance dates for water-quality and technology-based limitations are governed by the statutory deadlines in section 301 of the CWA. CSOs that discharge toxic pollutants into water bodies listed under paragraph (B) of section 304(1) of the CWA are additionally regulated under section 304(1). All CSOs that are subject to section 304(1) must achieve applicable water quality standards by the statutory deadlines in that Section (see Final Guidance for Implementation of Requirements Under section 304(1) of the CSW as Amended, March 1988 and forthcoming regulations). To the extent technology and water quality-based limitations cannot be met by the applicable dates, the permit should contain the statutory dates and public notice should be given simultaneously with an administrative enforcement order or other appropriate enforcement actions requiring compliance within the shortest reasonable time. Effluent limitations based upon newly developed water quality standards or new interpretations of existing water quality standards, however, may be covered by compliance schedules in the NPDES permit. This strategy is not to be considered a new development or new interpretation of water quality standards.



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## 5. Minimum Technology-Based Limitations

All permits for CSO discharges should require the following technology-based limitations as a minimum BCT/BAT, established on a BPJ basis: (1) Proper operation and regular maintenance programs for the sewer system and combined sewer overflow points; (2) maximum use of the collection system for storage; (3) review and modification of pretreatment programs to assure CSO impacts are minimized; (4) maximization of flow to the POTW for treatment; (5) prohibition of dry weather overflows; and (6) control of solid and floatable materials in CSO discharges. Control measures, as mentioned below, may also be required on a case-by-case basis to address the particular circumstances of each combined sewer system and overflow point. All BPJ permits must consider the factors set forth at 40 CFR 125.3(d).

## 6. Additional CSO Control Measures

Cost is always a consideration when establishing technology-based limits in NPDES permits (40 CFR 125.3). However, the CWA under section 301(b)(1)(C) also requires any additional permit limits that may be necessary to protect State water quality standards. In the event additional control measures are necessary, the permittee should choose the most cost effective control measures which will insure compliance with water quality standards. For example, CSO control programs should be designed to incorporate best management practices and other low cost operational methods and only incorporate more expensive control measures if necessary to meet water quality standards.

Additional control measures that should be considered to bring all wet weather CSOs into compliance with technology-based and applicable State water quality standards include improved operation and maintenance, best management practices, system-wide storm water management programs, supplemental pretreatment program modifications, sewer ordinances, local limits program modifications, identification and elimination of illegal discharges, monitoring requirements, pollutant specific limitations, compliance schedules, flow minimization and hydraulic improvements, direct treatment of overflows, sewer rehabilitation, in-line and off-line storage, reduction of tidewater intrusion, construction of CSO controls within the sewer system or at the CSO discharge point, sewer separation, and new or modified wastewater treatment facilities.

## 7. Monitoring

Monitoring requirements for wet weather CSOs will vary based on the unique circumstances of each combined sewer system and overflow point. Cost effective monitoring requirements should be developed to serve three purposes: (1) To characterize CSO discharges, including their frequency, duration, and pollutant loadings; (2) to evaluate the water quality impacts of these discharges; and (3) to determine compliance with CSO permit requirements.

Discharge monitoring and/or modeling, wasteload allocations that address rainfall-related hydrological conditions, and often stream surveys are necessary to measure the extent to which CSO discharges are causing violations of technology-based limitations or water quality standards, and to design corrective programs. These monitoring/modeling requirements should be included in the initial CSO permits with reopener clauses to adjust permit limits as



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Compliance monitoring requirements should also be included in CSO permits. These monitoring requirements should include collecting and reporting data on CSO events and insuring that no dry weather overflows occur. Monitoring may also include inspections or reports aimed at assuring that required facility improvements have been made and/or that best management practices and other operation and maintenance requirements are being effectively implemented. Permits should require development and implementation of a monitoring plan or program to assure data needs are met. In-stream monitoring is expected to be conducted after improvements are made to assure water quality standards are met.

#### 8. Water Quality Standards Modification

Section 301(b)(1)(C) of the CWA mandates compliance with water quality standards. Permits must be written to ensure CSO discharges do not cause violations of water quality standards. The applicability of water quality standards should not be waived under any circumstances. In limited cases, it may be appropriate to adjust some water quality standards to address the impact of pollutants in wet weather flows more adequately. In these cases, this strategy encourages monitoring, modeling, or wasteload allocation procedures to better quantify influences and formulate control strategies to address rainfall-related hydrological conditions.

EPA sets forth the criteria for modifying State water quality standards at 40 CFR 131.10(g). In general, States may remove a designated use which is not an existing use as defined in 40 CFR 131.3, or establish subcategories of a use if the State can demonstrate that attaining the designated use is not feasible because of one of the six enumerated criteria listed at 40 CFR 131.10(g) including that controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact. States may not remove designated uses if they are existing uses, as defined in 40 CFR 131.3, unless a use requiring more stringent criteria is added; or if such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost effective and reasonable best management practices for nonpoint source control. Additionally, prior to removing any uses or establishing subcategories of use, the State must provide notice and an opportunity for public hearing under 40 CFR 131.20(b). Changes in designated uses or the establishment of subcategories of uses must be made on a site-specific basis in accordance with the procedures specified in 40 CFR 131.10(j).

In instances where current State water quality standards waive or relax compliance with those standards during wet weather, these wet weather provisions should be revised during the next triennial review to ensure appropriate water quality standards coverage during wet weather events.

#### 9. Funding

CSOs which cause adverse impacts on water quality and human health should be considered for funding. CSO corrections are fundable under both the Construction Grants and State Revolving Fund programs, although significant limitations apply.



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Construction grants may be awarded for CSOs under the following CWA provisions: section 201(g) (1) Governor's 20 percent discretionary fund; section 201(n) (1) funding from State's regular allotment for CSOs that are a major State priority and meet the water quality criteria in regulation (40 CFR 35.2024); and section 201(n) (2) special national fund, from a reserve of 1 percent of construction grants appropriated in FY 89 and FY 90, for marine CSOs that meet the water quality criteria in the regulation.

Before a State Revolving Fund (SRF) may use the capitalization grant, State match, or repayments of first round loans from the grants for CSOs, the State must meet the first use requirements, i.e., its National Municipal Policy list of projects must all be in compliance, on an enforceable schedule, have an enforcement action filed, or have a funding commitment. Once the first use requirement is met, the SRF may make loans or provide other assistance for CSOs with 20 percent of its grant amount (or with other grant dollars for CSOs under section 201(n) (1)) and with all of its matching or other funds in excess of the grant amount. Before the first use requirement is met, the SRF may fund CSOs with State funds in excess of the matching, bond proceeds in excess of the grant and match, and repayments of loans made with non-grant funds. For further information regarding SRF funding, see Initial Guidance for SRFs, January 1988.

#### 10. Permit Application Forms

CSOs that are permitted in conjunction with a POTW should be identified in the permit application form submitted to the permitting authority. POTWs must submit a Form A (EPA Form 7550-22) 180 days prior to discharge or permit expiration. CSOs that are permitted separately from a POTW, should submit a NPDES Form 2C (EPA Form 3510-2C) to the permitting authority 180 days prior to permit expiration. For new CSOs, NPDES Form 2D (EPA Form 3510-2D) should be submitted 180 days prior to discharge.

Dated: August 10, 1989.

Rebecca W. Hanmer,

Acting Assistant Administrator for Water.  
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